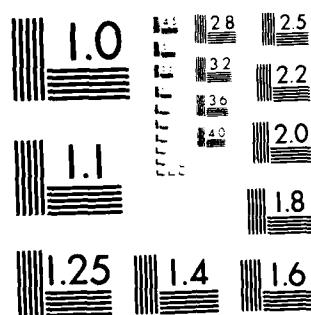


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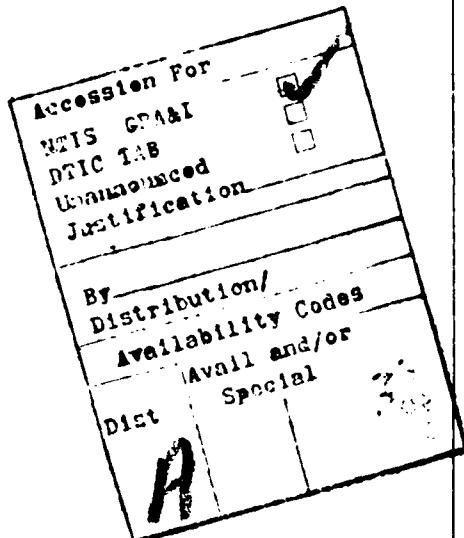


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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER <b>AFOSR-TR- 0217</b>	2. GOV. ACCESSION NO. <b>A126823</b>	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Gordon Conference on Molecular Electronic Spectroscopy	5. TYPE OF REPORT & PERIOD COVERED Final Report	
7. AUTHOR(s) <b>M. Robin H. Hochstrasser</b>	6. PERFORMING ORG. REPORT NUMBER <b>AFOSR-82-0283</b>	
9. PERFORMING ORGANIZATION NAME AND ADDRESS University of Rhode Island Department of Chemistry Kingston, RI 02881	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 61102F 2303/B1	
11. CONTROLLING OFFICE NAME AND ADDRESS Air Force Office of Scientific Research/NC Bolling AFB, DC 20332	12. REPORT DATE <b>8-13 Aug 82</b>	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	13. NUMBER OF PAGES <b>11</b>	
16. DISTRIBUTION STATEMENT (of this Report)	15. SECURITY CLASS. (of this report) Unclassified	
7. DISTRIBUTION ST. ENT (of 1 - abstract entered in Block 20, if different from Report)	15a. DECLASSIFICATION DOWNGRADING SCHEDULE	
18. SUPPLEMENTARY TES	DTIC ELECTED APR 15 1983 H CJ	
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Molecular Electronic Spectroscopy Intramolecular Dynamics Photophysics	Condensed Phase Gas Phase	
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  SEE OTHER SIDE		

## 20. Abstract (cont)

The Gordon Research Conference on Molecular Electronic Spectroscopy was held August 8-13, 1982 at the Brewster Academy site, Wolfeboro, NH. There were 109 conferees and 18 invited speakers. The fields covered included the spectra and structure of small molecules and ions including laser techniques of high resolution spectroscopy. An important achievement of the Conference was the bringing together of research workers condensed phases with those usually concerned with isolated molecule properties. Thus sessions were held on energy transfer and ultrahigh resolution spectroscopy in various types of solids and glasses, in addition to a number of lectures on intramolecular dynamics, photophysics and vibrational energy redistribution. A complete session was devoted to multiphoton ionization spectroscopy of moderately large molecules. The topic of large molecule and cluster structure and dynamics was further brought out through the session on spectroscopy in supersonic jets. Critiques returned by the attendees declared the meeting to be of extraordinarily high quality.



FINAL REPORT

AFOSR-82-0283

GORDON CONFERENCE ON MOLECULAR ELECTRONIC SPECTROSCOPY

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8-13 August 1982

14051-12-0213  
McGraw Electric Mfg Co

## Gordon Conference on Molecular Electronic Spectroscopy

August 8-13, 1982

## Final Report

The accompanying material indicates the list of attendees and the final program of the Conference. There were 109 conferees and 18 invited speakers. In addition there were numerous contributors to the discussion as arranged by the chairmen of the 9 sessions.

The meeting was of extraordinarily high quality as judged by the vast majority of the participants. Electronic spectroscopy is a mainstay of the understanding of molecular structure as well as molecular dynamics. The meeting bridged both these areas and in so doing made "lasting contributions to chemistry through a memorable conference".

The fields covered included the spectra and structure of small molecules and ions including laser techniques of high resolution spectroscopy. A unanimous success of the Conference was the bringing together of research workers in condensed phases with those usually concerned with isolated molecule properties. Thus sessions were held on energy transfer and ultrahigh resolution spectroscopy in various types of solids and glasses, in addition to a number of lectures on intramolecular dynamics, photophysics and vibrational energy redistribution. A complete session was devoted to multiphoton ionization spectroscopy of moderately large molecules. The topic of large molecule and cluster structure and dynamics was further brought out through the session on spectroscopy in supersonic jets.

The opinion of the attendees was uniformly enthusiastic about the quality, importance and timeliness of this meeting. All were agreed it was absolutely forefront and stimulating. The only improvement suggested, and one with

which the chairmen agree in retrospect, is that the informal contributions to the discussion should be more restricted to material relevant to main subjects of the Conference and to exciting new developments in the field. There were many exciting contributions in these categories, but others that could have been omitted.



ROBIN M. HOCHSTRASSER

CHAIRMAN, 1982 CONFERENCE

ON MOLECULAR ELECTRONIC SPECTRA

PHILA. JANUARY, 1983

GORDON RESEARCH CONFERENCES  
BREWSTER ACADEMY, WOLFEBORO, NEW HAMPSHIRE

MOLECULAR ELECTRONIC SPECTROSCOPY  
AUGUST 8-13

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10% conferees  
10 guests

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109 conferees

10 guests

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GORDON RESEARCH CONFERENCES  
BREMSTER ACADEMY, WOLFEBORO, NEW HAMPSHIRE

MOLECULAR ELECTRONIC SPECTROSCOPY  
AUGUST 9 - 13, 1982

PROGRAM

MONDAY, AUGUST 9

Small Molecules and Ions I with Chairperson D.A. Ramsey, NRC, Ottawa

Jahn Teller Effects on Rotational Energy Levels J.K.G. Watson

Optical Double Resonance Laser Spectroscopy of Small Molecules W. Demtröder

High-Resolution Spectroscopy with Chairperson K.K. Innes, S.U.N.Y., Binghamton

Electronic Structure of Ionic Diatomic Molecules R.W. Field

Recent Ultrahigh-Resolution Spectroscopic Results W.J. Childs

TUESDAY, AUGUST 10

Spectroscopy in Condensed Phases with Chairperson M. Kasha, Florida State, Tallahassee

Holeburning and Coherent Transient Spectra of Solids R.W. Macfarlane

Non-Photochemical Holeburning Spectroscopy G.J. Small

Small Molecules and Ions II with Chairperson T. Miller, Bell Labs, Murray Hill

Electronic Spectra of the Sulfur Group Molecules R.F. Barrow

Studies of Rydberg States in Polyatomic Molecules by Optical and Threshold  
Photoelectron Spectroscopies S. Leach

WEDNESDAY, AUGUST 11

Multiphoton Ionization Spectroscopy with Chairperson E.W. Schlag, Tech Univ., Munich

Multiphoton Ionization Studies of Some Aromatic Molecules P.M. Johnson

Optical Double Resonance Multiphoton Ionization Spectroscopy S.D. Colson

Energy Transfer and Coherent Spectroscopy with Chairperson R. Silbey, M.I.T.

Electronic Excited State Transport in Disordered Systems M.D. Fayer

Phase Coherence in Multiple-Pulse Optical Spectroscopy A.H. Zewail

TUESDAY, AUGUST 12

Relaxation Processes in Isolated Systems with Chairperson C.S. Parmenter, Univ. of Indiana, Bloomington

Protodissociation of Polyatomic Molecules K.F. Freed

Spectroscopy and Intramolecular Dynamics R.N. Zare

Relaxation Processes in Isolated Systems continued, with Chairperson T.M. Dunn, Univ. of Michigan Ann Arbor

Interaction between Electronic and High Vibrational States N. Bloembergen and I. Burstein

Title to be announced J. Jortner

FRIDAY, AUGUST 13

Beam Spectroscopy of Aggregates with Chairperson R.N. Dixon, Univ. of Bristol

Molecular and Metallic Clusters R.E. Smalley

Spectroscopy and Photochemistry of Organic Clusters D. Levy